



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



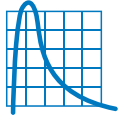
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T H E R M O M E T R I C S
A C O M M I T M E N T T O E X C E L L E N C E

ZTP-101T

Thermopile IR Sensor

This thermopile sensor is used for non-contact surface temperature measuring. The ZTP -101T model consists of thermo-elements, flat IR filter, a thermistor for temperature compensation and a hermetically-sealed small-size package. There is also a variety of filters available to maximize performance in specific applications

Applications

- Patient monitoring
- Ear & Tympanic thermometers
- Occupancy detection
- HVAC
- Appliance



Features

- Non-contact measurement
- Wider surface area measurement
- Small-size sensor package
- Included ambient temperature - (thermistor) sensor for compensation
- High sensitivity
- Fast response time
- Low cost

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Specifications

Thermopile Chip

Parameter	Limits			Units	Condition
	Min	Typ	Max		
Chip Size	3.0 X 3.0			mm ²	
Diaphragm Size	1.5 x 1.5			mm ²	
Active Area	0.51 x 0.51			mm ²	
Internal Resistance	140	200	260	kΩ	25°C
Resistance T.C	0.10			%/°C	
Responsivity	77	110	143	V/W	500K, 1 Hz
Responsivity T.C	-0.11			%/°C	
Noise Voltage	62			nV rms	R.M.S., 25°C
NEP	0.60			nW/Hz ^{1/2}	500K, 1 Hz
Detectivity	9.00 E07			cmHz ^{1/2} /W	500K, 1 Hz
Time Constant	22			ms	

Thermistor Resistance (R-T Table)

T ambient (° C)	Rmin (kΩ)	Rcent (kΩ)	Rmax (kΩ)
-40	267	284.7	303.2
-35	197.2	209.6	222.5
-30	147.1	155.9	165
-25	110.8	117.1	123.6
-20	84.16	88.68	93.35
-15	64.46	67.73	71.11
-10	49.74	52.13	54.59
-5	38.65	40.41	42.21
0	30.24	31.54	32.86
5	23.81	24.77	25.75
10	18.86	19.58	20.3
15	15.03	15.56	16.1
20	12.04	12.44	12.84
25	9.7	10	10.3
30	7.823	8.082	8.342
35	6.342	6.566	6.791
40	5.168	5.361	5.557
45	4.233	4.4	4.569
50	3.484	3.629	3.776
55	2.882	3.007	3.135
60	2.396	2.504	2.615
65	2.0009	2.095	2.192
70	1.679	1.7612	1.8458
75	1.4153	1.4871	1.5612
80	1.1984	1.261	1.3264
85	1.0193	1.0745	1.1317
90	0.8707	0.9193	0.9697
95	0.7469	0.7898	0.8344
100	0.6433	0.6812	0.7208
105	0.5562	0.5899	0.625

Thermistor for Temperature Compensation

Parameter	Limits			Units	Condition
	Min	Typ	Max		
Resistance	29.1	30	30.9	kΩ	Tol. :3%, @25°C
Beta - Value	3773	3811	3849	K	Tol. :1%, Defined at 0°C/50°C

Absolute Maximum Ratings

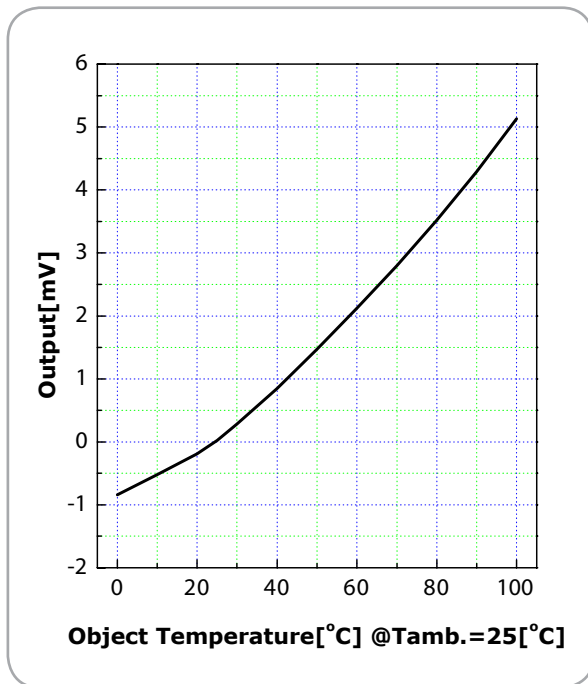
Operating Temperature

-20°C ~ 100°C

Storage Temperature

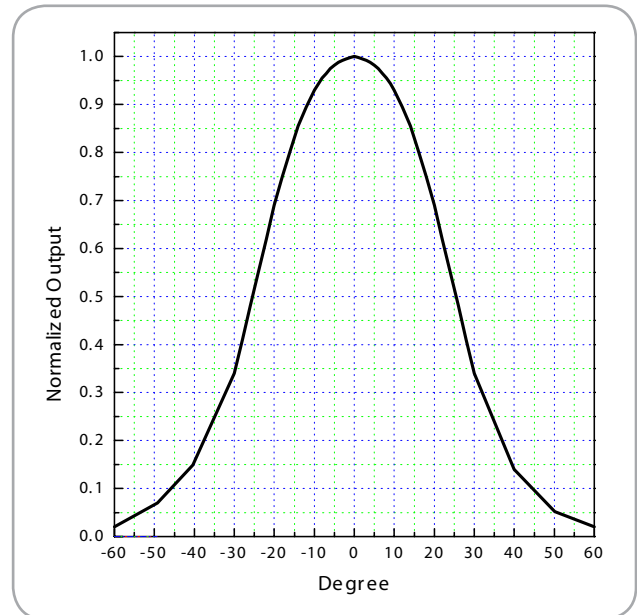
-40°C ~ 120°C

Sensitivity

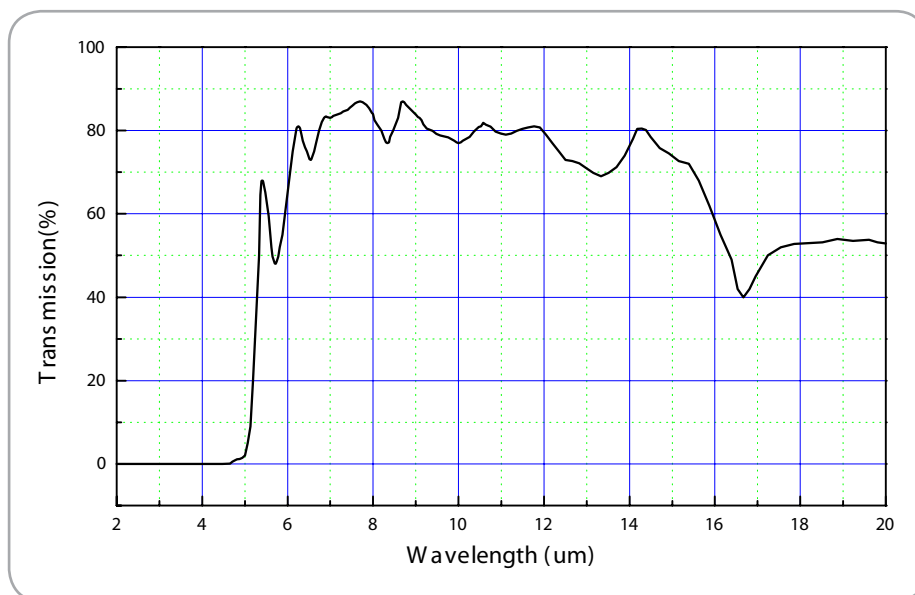


Field of View

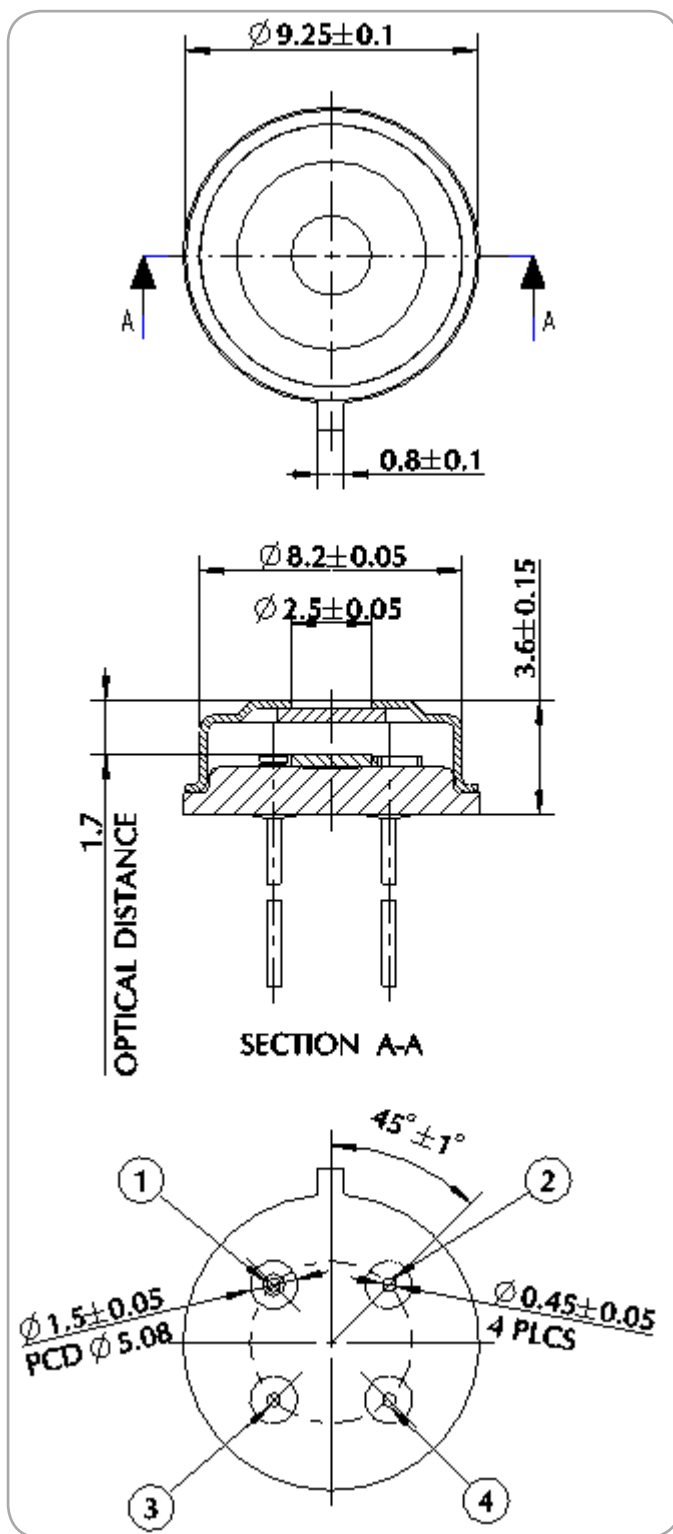
Parameter	Limits			Units	Condition
	Min	Typ	Max		
Field of View	45	50	55	Degree	50% of Maximum Output



Transmission Data of Filter



Outline of Sensor Packaging and Pin Arrangement (unit = mm)



Unit: mm

- Pin arrangement:
1. GND Thermistor
 2. Thermopile
 3. GND Thermopile
 4. Thermistor

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